

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022861**Date Inspected:** 18-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	N/A	<b>CWI Present:</b>	Yes	No			
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No	N/A
				<b>Delayed / Cancelled:</b>	Yes	No	N/A

**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 12AE (U-Rib to U-Rib)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the U-Rib to U-Rib at the transverse splice between Panel Points (PP) 112 and PP 112.5 for Segment 12AE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00655 dated April 18, 2011.

The bolt sizes used were M22 x 65 RC Lot # DHGM220112 and the final torque value established was 343 N-m.

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220104 and the final torque value established was 380 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

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Note: 1. Retro-fit splice plates were installed at U-Rib 34th (between work point W3 towards W5).  
2. U-Rib located at 15th, 18th, 23rd (between work point W3 towards W4); 34th and 39th (located between work point W4 towards W5) was offered for inspection.

### Segment 12BE to Segment 12CE (U-Rib to U-Rib)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the U-Rib to U-Rib at the transverse splice between Panel Points (PP) 114.5 and PP 115 for Segment 12BE to Segment 12CE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00655 dated April 18, 2011.

The bolt sizes used were M22 x 80 RC Lot # DHGM220118 and the final torque value established was 467 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220121 and the final torque value established was 393 N-m.

The Manual Torque wrench used was Serial No. XO2-777.

Note: U-Ribs with Retro-fit splice plates installed locations were only offered for Inspection. Retro-fit splice plates are installed at U-Rib 3rd, 9th, 17th, 36th, 37th, 38st and 39th.

### Segment 12BE to Segment 12CE (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Longitudinal Diaphragm to Longitudinal Diaphragm between Panel Points (PP) 114.5 and PP 115 for Segment 12BE to Segment 12CE at work point E4, Cross Beam side and work point E3 Bike Path side. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00655 dated April 19, 2011.

The bolt sizes used were M22 x 75 RC Lot # DHGM220034 and the final torque value established was 453 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

### Segment 12AE (Splice Plates)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Splice Plates to Deck Panel Diaphragm and full height Longitudinal Diaphragm at elevation 4750mm (from Bottom Panel) for Segment 12AE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00655 dated April 18, 2011.

The Splice plates are installed between the following Panel Points.

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Segment 12AE between PP 112 to PP 112.5, at work point E4 (Cross Beam side) and E3 (Bike Path side).

The bolt sizes used were M24 x 75 RC Lot # DHGM240020 and the final torque value established was 600 N-m.

The bolt sizes used were M24 x 90 RC Lot # DHGM240028 and the final torque value established was 540 N-m.

The bolt sizes used were M22 x 100 RC Lot # DHGM220022 and the final torque value established was 527 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220024 and the final torque value established was 553 N-m.

The Manual Torque wrench used was Serial No. XO2-777.

### Segment 12BE (Splice Plates)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Splice Plates to Deck Panel Diaphragm and full height Longitudinal Diaphragm at elevation 4750mm (from Bottom Panel) for Segment 12BE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00656 dated April 19, 2011.

The Splice plates are installed between the following Panel Points.

Segment 12BE between PP 113 to PP 113.5; PP 113.5 to PP 114; PP 114 to PP 114.5 at work point E4 (Cross Beam side) and E3 (Bike Path side).

The bolt sizes used were M24 x 75 RC Lot # DHGM240020 and the final torque value established was 600 N-m.

The bolt sizes used were M24 x 90 RC Lot # DHGM240028 and the final torque value established was 540 N-m.

The bolt sizes used were M22 x 100 RC Lot # DHGM220022 and the final torque value established was 527 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220024 and the final torque value established was 553 N-m.

The Manual Torque wrench used was Serial No. XO2-777.

### Segment 12CE (Splice Plates)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Splice Plates to Deck Panel Diaphragm and full height Longitudinal Diaphragm at elevation 4750mm (from Bottom Panel) for Segment 12CE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00656 dated April 19, 2011.

The Splice plates are installed between the following Panel Points.

Segment 12CE between PP 115 to PP 115.2; PP 115.2 to PP 115.5; PP 115.5 to PP 116; PP 116 to PP 116.5 and

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PP 116.5 to PP 117 at work point E4 (Cross Beam side) and E3 (Bike Path side).

The bolt sizes used were M24 x 75 RC Lot # DHGM240020 and the final torque value established was 600 N-m.

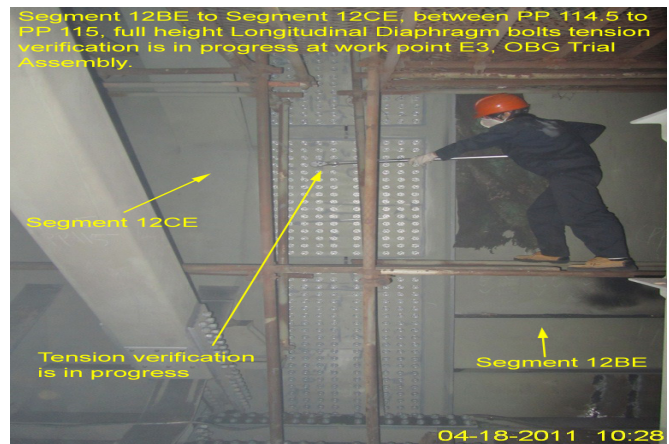
The bolt sizes used were M24 x 90 RC Lot # DHGM240028 and the final torque value established was 540 N-m.

The bolt sizes used were M22 x 100 RC Lot # DHGM220022 and the final torque value established was 527 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220024 and the final torque value established was 553 N-m.

The Manual Torque wrench used was Serial No. XO2-777.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



### Summary of Conversations:

No relevant conversations were reported on this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Math,Manjunath

Quality Assurance Inspector

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**Reviewed By:** Miller,Mark

QA Reviewer